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lies itself in a bed of serpentine, and that it is therefore possible that the pseudomorphs were formed at the very time of the original crystallization of the dolomite. If we grant that the dolomite, and the bed of serpentine which contains it, were formed simultaneously, it may readily follow that the minute pseudomorphous seams of serpentine *within* this dolomite were enclosed during the very act of crystallization of the dolomite. With this view, we might regard these pseudomorphs by substitution as having been deposited, not by an infiltrating solution from without, but by a solution which was being *expelled* from the interior of the dolomite by the crystallizing power of the latter. If such were the case, the serpentine would readily assume the *habitus* of the dolomite, and the same crystallizing force which caused the cleavage-planes and the transverse striæ upon the dolomite would superinduce them upon the enclosed serpentine.

Contemporaneous pseudomorphism implies a pseudomorphism by association. True pseudomorphism by substitution, like epigenesis, is subsequent. While not attempting in the present case to determine the relative time and, therefore, the kind of pseudomorphism, the foregoing remarks are offered merely as suggestions in reference to a subject already so fully discussed by eminent writers.

New Localities for Barite.—Mr. LEWIS contributed the following new Pennsylvania localities for barite:

1. Bridgeport, Bedford Co. It occurs here in small tabular crystals in red Catskill sandstone (No. IX).

2. Broad Top Mountain, Huntington Co. Thin transparent coatings of barite frequently cover the fossil ferns and calamites which occur in the carboniferous shales and fire-clay adjoining the semibituminous coal-seams of Broad Top Mountain.

3. Lancaster Station, Franklin Co. It occurs here in large white cleavable masses.

FEBRUARY 23, 1880.

New Localities for Chabazite.—Mr. LEWIS PALMER announced two new localities for chabazite. It occurs in red crystals in a hornblendic gneiss at Waterville, near Chester, and also at Upland, Delaware Co.

On a New Ore of Antimony.—Mr. H. C. LEWIS described an oxide of antimony found at Senora, Mexico, which he had been unable to identify completely with any known mineral. Under the supposition that it was a tin ore, it was sent to him by Mr. T. H. Shoemaker for examination.

The mineral generally occurs as a massive, compact, hard substance, with an imperfectly conchoidal cleavage and of a pale grayish yellow color. It also occurs as minute colorless octahedral crystals of glassy lustre. The crystals often occur in druses in the massive mineral, and are sometimes modified. Their form can only be distinguished with the microscope. Neither the crystals nor the massive substance show any colors in polarized light, and the mineral is therefore isometric. Special care has been taken to prove the identity of the octahedral crystals with the massive mineral. So far as could be determined with such minute crystals, their hardness and their behavior in the open tube were identical with the massive mineral.

The mineral here described has the following physical characters:

Isometric. Habit octahedral. Generally massive. Hardness, 6.5–7. Specific gravity, 4.9. Lustre of the crystals glassy; of the massive mineral sub-resinous or sub-vitreous. Color, pale grayish yellow. Streak uncolored. Transparent in crystals, opaque when massive. Fracture sub-conchoidal.

A thin section of the purest mineral examined under the microscope shows an entire absence of any foreign admixture. The structure is banded, the bands consisting of more or less opaque material, and the general appearance of the section recalling a section of muscular fibre. It has the following blowpipe characters:

On charcoal before the blowpipe, it is fusible with difficulty and decrepitates strongly. It gives a white coating of oxide of antimony, and fuses to a gray or bluish gray slag and is partially reduced to metal. With carbonate of soda on charcoal it is more readily reduced. In the borax and salt of phosphorous bead the slag dissolves and gives it generally a blue color, due to a trace of cobalt. In the closed tube it gives off water, decrepitates with violence, turns deep yellow when hot and becomes white when cold. It does not fuse or give a sublimate in either open or closed tube. When the slag formed by fusion on charcoal is moistened and placed on turmeric paper, it forms a brown stain.

The following are its chemical characters:

It is partially dissolved by digestion in concentrated hydrochloric acid, and by the addition of water to the yellow solution thus obtained white oxychloride of antimony is precipitated. It is decomposed with great difficulty, even after fusion with sodic carbonate and sulphur. On account of the difficulty of getting it into complete solution, no quantitative analysis has as yet been made. It has been found to consist mainly of oxide of antimony and to contain small percentages of lime, iron and water, and traces of arsenic cobalt, and lead. It has 3.1 per cent. of water. Until an exact analysis is made it will not be possible to determine its mineralogical equivalent.

Several tests indicate that the antimony exists mainly in the state of antimonious oxide. It differs from senarmontite and valentinite in hardness, in fusibility and in solubility; from stibiconite in greater hardness, in its decrepitation, and in its occurring in crystals; from cervantite in its fusibility and in its behavior in the open tube; and from volgerite in the amount of water.

The massive mineral frequently contains crystals and small veins of quartz, and sometimes contains also small seams of a soft reddish yellow mineral which is probably stibiconite, a product of alteration.

Menaccanite from Fairmount Park.—Mr. John Ford exhibited a fine specimen of menaccanite (ilmenite), found by Mr. G. Howard Parker in mica schist that had been quarried from the tunnel near Girard Avenue Bridge, Fairmount Park. Though associated with many others of like character, this specimen is probably the largest and most beautiful of any found in or near the locality named. It is quite lustrous in appearance, and measures about one-third of an inch in thickness by one inch in width. Its general form is that of an almost perfect half-circle, the whole being partly imbedded edgewise in a matrix of quartz.

It seems probable that the circular form of the crystal is due to its having been bent by the curving of the bed of schist in its earlier stages; but, of course, this can be little more than a supposition. The entire length of the crystal, measured around the curve, is about four inches.

March 22, 1880.

On a Fault in the Trias near Yardleyville, Pa.—Mr. H. C. Lewis remarked that it was not often that a section of a well-defined fault was exposed for study. Frequently a fault starts a line of erosion which obliterates all trace of it, and the actual junction of the faulted measures is either occupied by a stream or is so covered by talus that it can only be inferred from adjoining outcrops. He therefore thought that it might be of interest to describe a finely exposed fault which he had recently observed on the line of the Bound Brook Railroad.

Less than half a mile west of Yardley Station on the Bound Brook Railroad, a deep cut exposes a fine section of lower triassic shales and conglomerates. The fault occurs in about the middle of this cut. It may be seen on both sides of the railroad, but is finest on the north side. It is a fault between the lower white conglomerate and the overlying, but here adjacent, red shale. The fault runs north and south, or nearly at right-angles to the strike of the strata. The east end of the cut exposes conglomerate and sandstone, and the west end red shale, both of which are more or less decomposed and dip gently to the north. These formations are separated from one another by the nearly perpendicular walls of a trap-dyke, which occupies the line of fault.